

APPENDIX J

TERRESTRIAL WILDLIFE POPULATIONS VIABILITY SUMMARY RELATED TO THE AMERICAN AND CROOKED RIVER PROJECT

INTRODUCTION

The National Forest Management Act (NFMA) requires that vertebrate species populations' viability be maintained across the "planning area." The planning area is generally defined as each national forest. Very few if any vertebrate species' ranges are so limited in geographical extent that they remain within the boundaries of any given national forest "planning area." In assessing species populations viability to meet the intent of NFMA, reconciling disparities between the geographic scale of management actions and the scale of ecological responses (i.e., species' viability) across geographically extensive landscapes is necessary to avoid a gross mismatch of ecological analysis scale which can reduce reliability of the environmental analysis (Ruggiero, L.F. et al. 1994; Noon, B.R. et al. 1999). More appropriately, such analyses must be accomplished through an analysis framework that assesses ecological responses of forest-scale "biological populations" from within the "planning area." Scale issues are also important in impact analysis because individual populations evolving under the unique conditions present in a given local may have acquired characteristics important for that population's persistence (Samson, F.B. 2002).

ANALYSIS FRAMEWORK

To conduct comprehensive population viability analyses, it requires extensive ecological data, which is usually unavailable and it is usually cost and time prohibitive to collect that data locally (Ruggiero et al. 1994). The following framework provides an ecological habitat basis that supports species viability assertions for the 2.2 million acre Nez Perce National Forest based on two hierarchically-tiered spatial scales, with the assumption that other environmental variables (e.g., disease, competition) are related to habitat structure and spacing (Roloff & Haufler, 1997). This framework relies on data summarized from mid-scale subbasin ecological assessments (Planning Unit Assessments), preparatory for Forest Plan revision. Site-specific habitat analyses showing habitats for species at risk species is relatively well distributed on the Forest.

SPECIES AT RISK

The species that require population viability analysis are those whose populations are in declines for various reasons or their habitats have become so modified or in short supply that the species may be in jeopardy of becoming locally extirpated or extinct. Federally listed species all are automatically assumed to fit these "species at risk" general criteria. The Forest Service "sensitive" list represents the most defensible and appropriate list of other, less critical, but uncertain species. The process used to update this list in USFS Region 1 was the "species of concern" lists from the Natural Heritage Programs of Idaho, Montana, North Dakota, and South Dakota with consideration of species identified by the Partners in Flight, BLM sensitive lists, USFWS candidate lists and migratory bird species of concern. Details of this species identification process are documented in the Northern Region Forest Service 2004 Sensitive Species List Update Process for Wildlife, (2-11-04) led by Tom Wittinger of the Missoula office (R1) of the U.S. Forest Service.

This analysis addresses federally listed species, Forest Plan Management Indicator species, and key Forest Service sensitive species. These species are considered most to have concern about population or habitat status.

This analysis is not a quantitative analysis of viable populations, because it is not an explicit model of genetic or demographic risk to species persistence. Rather, it does provide a reasoned series of judgments and inferences about projected amounts and distributions of habitat and the likelihood that broad-scale habitat mitigations will allow terrestrial species to persist in the foreseeable future.

MID-SCALE

NEZ PERCE NATIONAL FOREST HISTORY

Broad scale analysis themes of concern identified above have been recognized as common to the Nez Perce National Forest and were historically documented in the forest planning records. Evidence of their presence across the Forest could be founding early forest planning AMS documents:

1. Conifer age class distributions on the Nez Perce Forest remain weighted too heavily away from historic, pre-European conditions. This condition was recognized in TSMRS data and documented in the statement, “The existing age-class structure in the 1964-73 analysis reflects similar problems that still exist today. There is a definite shortage in both the seedling/sapling and pole timber condition classes.” Figure 1 of this document graphed the age class distributions of suitable timber pre-dominantly in the mid-aged categories as well”, (USDA Forest Service 1982, Nez Perce Forest Plan, Background Paper for Analysis of the Management Situation – Timber, page 4-5).
2. Large-scale exclusion of fire from the landscapes of the Nez Perce National Forest were recognized as Forest Planning “issues” even before the completion of the 1987 Plan. This was documented in Issue #12 (Fire Effects) where in the situation statement acknowledged the following: “With a dramatic improvement in firefighting effectiveness over the last 30-40 years, the burned-over acreage on the Forest has been greatly reduced. This exclusion of fire has had a significant effect on vegetative succession, an effect which has become more pronounced over time, and one which has had varying effects on different resources” (USDA Forest Service 1987:A-17, Nez Perce National Forest Issues and Concerns, Nez Perce National Forest). Likewise, in the same document within the wildlife section, the public raised questions during the scooping process regarding “How will fire management affect wildlife habitat?” USDA Forest Service 1987:A-10).
3. The multi-faceted effects of large numbers of roads on the Nez Perce National Forest were theorized early on and stated as another of the public’s issue related questions expressed in the statement: “Do management activities create too much access to wildlife habitat?” (USDA Forest Service no date: Nez Perce Forest Plan Background Paper for Analysis of the Management Situation – Wildlife, page 27).

Recovery of threatened and endangered species (wolf, grizzly bear, bald eagle, lynx) would rely on application of Forest Plan wildlife standards on pages II-18-20 and include: maintaining or improving elk habitat through use of the “Guidelines for Evaluating and Managing Summer Elk Habitat in Northern Idaho, Forest Plan Appendix B), monitoring population levels of all Management Indicator Species, consulting with the Fish & Wildlife Service and Idaho Dept. of Fish & Game whenever management of wolf dens or rendezvous areas are involved, restoring fish habitats, and implementing the post-Forest Plan Lynx Conservation Assessment and Strategy. Viable populations of old growth and snag-dependent species would be accomplished through implementation of Forest Plan Appendix N (old-growth and snag standards). For the remainder of “at risk” species, implementation of species recovery or conservation plan actions would occur.

HABITAT & ECOLOGICAL PROCESSES TRENDS – PLANNING UNIT ASSESSMENTS (PUA)

Ecosystem analysis of the 2.2 million acre Nez Perce National Forest was based on (1) three mid-scale, watershed-oriented sub-basins which facilitated scaled-down analysis; and (2) recommendations for application of pre-emptive restoration actions needed to restore terrestrial vertebrate habitats within the South Fork Clearwater River, Selway/Middle Fork Clearwater, and Salmon River sub-basins. Analyses of these units were subdivided and recommendations were applied to Ecological Reporting Units (ERU), within each assessment. For example, the South Fork Clearwater Assessment (SFLA) is subdivided geographically into 13 watershed-based reporting units: South Fork Canyon, Meadow Creek, Cougar-Peasley Creeks, Silver Creek, Newsome-Leggett Creek, American River, Red River, Crooked River, Tenmile Creek, Wing-Twenty mile Creek, Johns Creek, Mill Creek, and Camas Prairie.

Each analysis considered an array of comparisons of historic versus current conditions relative to forest seral stages, old growth, disturbance processes, relative habitat patch sizes, and other habitat parameters including fire frequencies/intensities. Relative densities of roads were also evaluated along with numerous other resource considerations.

Site-specific conservation and restoration recommendations identified thematic landscape vegetative and disturbance (fire) process changes as well as increased security needs (related to road impacts) within each ERU. By this pattern, the conservation and restoration needs were identified to help ensure sufficient amounts and distribution of habitats to sustain population viability and persistence. Recommendations were provided as guidance for future Forest restoration actions.

SOUTH FORK CLEARWATER RIVER LANDSCAPE ASSESSMENT (1998)

The process and rationale behind the terrestrial species analyzed is presented in the South Fork Clearwater River Assessment (USDA, Forest Service, 1998a, page 99-100). Species were selected based on five broad “guilds” including: ponderosa pine, early seral forest dependent, late forest seral dependent, riparian-associated species, and security-dependent species. Representative “indicator species” were then chosen for in-depth analysis, based principally on species status as either a Forest Plan management indicator or Forest Service sensitive species.

Understanding the effects of changed disturbance regimes for terrestrial and aquatic systems is emphasized throughout the South Fork Clearwater River Landscape Assessment. Restoration of the pattern of disturbance appropriate to a given setting was a key consideration in developing management themes and recommendations (USDA, Forest Service, 1998a, page 7). Relative amounts and distribution of historic versus current habitats for each species were analyzed. A summary of the recommendations for the subbasin are provide on pages 166-172, and includes specific discussion pertinent to larger scale, species persistence-related recommendations. Restoration “themes” and their priorities resulted from the landscape scale analysis for major resources and uses (USDA, Forest Service, 1998a: Table #5, page 165.).

Ensuring populations persistence thus must include fire-interval restoration, vegetative repatterning, restoration of late-seral habitats along with snags and logs, road management, aquatic habitat needs, and strategies to address fragmentation issues such as noxious weed spread. To facilitate recommendations which address site-specific actions which are well distributed across the subbasin, management actions are identified for each geographical Ecological Response Unit (ERU) within the subbasin for the Forest’s “at risk” species including fisher, flammulated owl, Canadian lynx, goshawk, pine marten, pileated woodpecker, wolverine, black-backed woodpecker, wolf, and bald eagle (USDA, Forest Service 1998b).

Chapter 4 of the South Fork Clearwater River Landscape Assessment (SFLA) summarized habitat needs into wildlife themes and treatment objectives that would help move vegetation patterns and

processes closer toward historic norms, theoretically providing the habitat changes necessary to maintain and sustain all “at risk” species in the local landscape.

For American River ERU, three key wildlife habitat restoration themes emerged: 1) Produce early-seral habitat (very high priority), important for species such as black-backed woodpecker and Canada lynx; 2) Conserve late-seral habitat (Moderate priority), important for species such as fisher, marten, Northern goshawk; and 3) Enhance wildlife security (moderate priority), important for species such as Canada lynx and marten (SFLA, page 140-141).

For Crooked River ERU, two key wildlife habitat restoration themes emerged: 1) Produce early-seral habitat (high priority), important for species such as black-backed woodpecker and Canada lynx; and 2) Conserve late-seral habitat (low priority), important for benefiting species such as marten, fisher, Northern goshawk (SFLA, page 148).

A discussion of impacts and opportunities for terrestrial species in the subbasin is provided in the SFLA (1998, Chapter 3, pages 100-107; Chapter 4, pages 114-117, 138-141, 146-149) that are associated with the American and Crooked River project.

FINE-SCALE: THE AMERICAN AND CROOKED RIVER PROJECT

The current mountain pine beetle infestation in the Elk City area within the Red River, Crooked River, and American River drainages is killing many thousands of acres of lodgepole pines, most of which are 6 inches in dbh or greater. The relative amounts of acreage planned for harvest by the American and Crooked Project relative to the analysis area acreage (39,000) now under attack by beetles in these drainages amounts to approximately 9 percent. The remaining areas will eventually be regenerated naturally by wildfire as it has done for centuries. Many thousands of acres of dead, standing trees will remain after the project is completed. For this reason, planned harvest treatments will have relatively negligible impact to overall habitat availability for black-backed woodpecker, but will help convert modest amounts of mid-seral timber now in abundance, to early seral habitat, a high priority wildlife habitat restoration theme from the SFLA. Early-seral habitat is important for habitat mosaics and forage production used by lynx as well as carrion sources and ungulate prey of wolves and wolverine.

The American and Crooked River Project will protect late seral habitats including all existing old growth stands and generous amounts of future replacement old growth from harvest. This action is consistent with the “conserve late seral” habitat restoration theme and will be beneficial for species such as fisher, pine marten, goshawks, and pileated woodpecker. Regenerating limited, but well-distributed acreages of mid-seral timber ahead of anticipated wildfire disturbances would enhance repatterning of forest vegetation, since no-late-seral stands are taken and due to minor reductions in fuels, may help maintain patches of unburned habitat after expected major wildfire disturbances.

Partial cut harvests will account for just over half of all proposed harvests in the project. The aim of partial harvests is to remove excess fuel loading, while increasing proportions of long-lived, fire-resistant species by restoring or regenerating western larch and ponderosa pine. Larch and ponderosa pine are preferred as snags for pileated woodpeckers and are more likely to become large, wildlife-preferred snags and down logs. Reductions in access through decommissioning of existing roads will also contribute toward enhancement of overall wildlife security. Most of these actions are consistent with viability associated habitat restoration aims cited in both the SFLA and ICBEMP.

Project activities in the American and Crooked River Project will accomplish the following:

- Protects and maintains all existing old growth within the project area. In addition, the project strategically designates and protects abundant future replacement old growth stands located adjacent to or “cluster-related” in their proximity to existing old growth stands. The project protects riparian zones that help serve to connect old growth patches. In doing so, the project contributes

to long term populations viability for all old growth related species including but not limited to: goshawk, fisher, marten, and pileated woodpecker.

- Converts 30-40 percent of the project area treatment acres from mid-seral to early seral conditions needed for several species. Actions also promote, restore, and protect large diameter ponderosa pine and larch in mixed conifer stands.
- Through widely distributed but modest levels of fuel removal, the project helps to reduce likelihood of locally severe fire effects, potentially increasing survivability of nearby old growth habitats, leaving a mosaic of habitat age classes which contribute to maintenance of a diverse habitat landscape after the predicted fire disturbance.
- Reduces and decommissions roads to help enhance wildlife security.

Specifically, the project will accomplish the following:

- Harvest up to approximately 3,400 acres (principally lodgepole pine), which amounts to approximately 9 percent of the analysis area.
- No new permanent roads developed, but up to 14 miles of temporary roads (for harvest access) would be developed and later decommissioned.
- Would decommission up to approximately 37 miles of roadway.
- Protect from harvest all existing old growth stands and maintain abundant future replacement old growth.
- Incorporates road and stream improvements designed to help restore and maintain aquatic habitats.

WILDLIFE SPECIES CONSIDERED IN DETAIL:

Project details from Alternative D of the American and Crooked Draft Environmental Impact Statement support species viability. Fisher, lynx, goshawk, marten, pileated woodpecker, wolverine, black-backed woodpecker, bald eagle, gray wolf, elk, and moose are discussed below.

FISHER

INTRODUCTION

In northern Idaho, fishers inhabit mesic, closed-canopy, later-seral forests (Heinemeyer 1995 pg 30-31). Modification of coniferous forests and the mosaic of the forest landscape may limit populations. Access to populations via roads and trails may increase the probability of trapping mortality (Heinemeyer 1995 pg. 33).

STATE STATUS AND AVAILABLE TREND INFORMATION

The network of Natural Heritage Programs and Conservation Data Centers determine the conservation status of a species. The rank is primarily based the number of occurrences, habitat quality, estimated population size and trend, range of distribution, and threats to a species or their habitat. The fisher has a global rank of G5 (widespread, abundant and secure) and an Idaho State ranking of S1 (critically imperiled) (Engle and Harris 2001, Groves et al. 1997).

The original decline if fisher population was due to trapping and logging (Engle and Harris 2001). However, no fisher trapping is currently allowed in Idaho, but animals are occasionally caught incidental to marten, coyote, and bobcat trapping. Current and past trend monitoring on the Nez Perce National Forest suggests relatively low numbers of fisher. Monitoring results have suggested that on the Nez Perce Forest, pine marten appear to be considerably more common than fishers.

During winter of 2003-2004, 28 snow-track routes were run statewide. Approximately six to eight fisher were detected.

HABITAT ANALYSIS

The following table (Table A-1) shows the acres of habitat for the American and Crooked River watersheds (and % habitat within the two watersheds) based on R1-VMP. Approximately 69% of American River and 60% of Crooked River contains habitat for this species.

TABLE J-1. ESTIMATED ACRES OF FISHER HABITAT WITHIN THE AMERICAN AND CROOKED RIVER DRAINAGES

Watershed	Summer Habitat Acres (% wtrsd)	Winter habitat acres (% wtrsd)
American River	38,326 (65%)	40,651 (69%)
Crooked River	21,727 (48%)	27,328 (60%)

The results of the Forest-wide Forest Inventory and Analysis indicate that, overall, fisher habitat is widely distributed across the Forest (this includes summer and winter habitat). The total potential fisher habitat represents approximately 33% of the forested lands forest-wide with a 90% confidence interval of 29% to 37%. Within the American River watershed, total fisher habitat (represented by winter habitat as summer habitat is included in the calculations) amounts to 53% of the forested lands and 11% in the Crooked River watershed. Table A-2 displays the FIA data at three scales: 1) Forest, 2) Subbasin (4th HUC), and watershed (5th HUC). The amount and distribution of habitat is both a reflection of the capability and current condition of the landscape, as well as the number of plots across the landscape.

TABLE J-2: FOREST INVENTORY AND ANALYSIS DATA AT THREE SCALES FOR PERCENT FISHER SUMMER AND WINTER HABITAT, INCLUDING 90% CONFIDENCE INTERVALS (CI LOW AND CI HIGH).

Species	Nez Perce Forest			South Fork Clearwater River			American River Watershed			Crooked River Watershed		
	CI Low	Mean	CI High	CI Low	Mean	CI High	CI Low	Mean	CI High	CI Low	Mean	CI High
Fisher Summer Habitat	17	20	23	20	26	33	13	28	45	0	7	25
Fisher Winter Habitat	29	33	37	35	43	51	32	53	75	0	11	27

Estimates of fisher habitat based on R1VMP and the FIA data differ primarily due to the divisions for size class and canopy cover categories being slightly different between the two datasets. R1VMP also provides a spatial context not represented by the FIA data.

Both FIA and R1VMP have strengths and limitations relative to modeling and providing an estimate of fisher habitat. FIA data should be interpreted in conjunction with the FIA old growth analysis to fill in habitat gaps created by small sample sizes and habitat model parameters in some of the landscapes.

CONCLUSION

Current distribution of fishers in North America is substantially fragmented compared to their historical (pre-European) distribution. Across the species' range, fisher populations declined in the early

twentieth century, probably due to a combination of over trapping, predator poisoning, and habitat loss from settlement, logging and forest fires (Heinemeyer 1995. 1995). Fishers and their habitat use were studied by Jeff Jones in the adjacent Newsome drainage and surrounding areas near Elk City during the late 1980's (Jones, J.L. 1991). Jones concluded that over-trapping and habitat loss due to extensive fires in 1910 and 1934 were most likely responsible for the historical decline of fishers in Idaho.

Fisher habitat has increased over historical conditions in both American River Crooked River drainages (SFLA, 1998, Wildlife Technical Report – Fisher) due to fire suppression and forest succession. The project harvests no existing old growth stands, also protects replacement old growth to promote largest contiguous block sizes, and improves security by decommissioning roadways.

Based on populations monitoring results, incidental sightings, ICDC database records and consideration of this data within the context of locally monitored downtrends in the two of the most commonly recognized threats to fisher and marten populations in the western U.S. (trapping pressure and clearcutting of late successional timber), local trends in fisher populations remain stable (USDA Forest Service, NPNF 15th Annual Monitoring & Evaluation Report 2002 Fisher/pine marten monitoring data - Item 10 Population Trends of Indicator Species , Nez Perce National Forest, 2004). Based on the analysis of the project impacts on fisher, there is sufficient habitat to support viable populations of fisher in the American and Crooked River drainages and Forest-wide.

LYNX

INTRODUCTION

In the Inland northwest, lynx inhabit high elevation, mountain coniferous forests (Koehler and Brittell 1990, pg. 10). Because of their need for both early seral-foraging habitat and late-seral denning habitat, lynx require a mosaic of forest successional states (Roloff 1995, pg 77).

STATE STATUS AND AVAILABLE TREND INFORMATION

The network of Natural Heritage Programs and Conservation Data Centers determine the conservation status of a species. The rank is primarily based the number of occurrences, habitat quality, estimated population size and trend, range of distribution, and threats to a species or their habitat. The lynx has a global rank of G5 (widespread, abundant and secure) and an Idaho State ranking of S1 (critically imperiled) (Engle and Harris 2001, Groves et al. 1997).

The original decline in lynx population was due to overexploitation and habitat loss (Engle and Harris 2001). However, no lynx trapping is currently allowed in Idaho, but animals are occasionally caught incidental to marten, coyote, and bobcat trapping. Based on sightings and ICDC database records, lynx possibly inhabit the Nez Perce National Forest. During the winter of 2003-2004, 28 snow track routes were run statewide. One lynx was possibly detected.

HABITAT ANALYSIS

Lynx analysis unit (LAU) delineations and habitat mapping actions directed by the Canada Lynx Conservation Assessment and Strategy (LCAS, 2000) have been completed for the entire Forest including the project area. Lynx habitat mapping of the Nez Perce Forest has undergone recent adjustments as recommended by the National Lynx Biology Team. Their recommendations were based on an on-site field review conducted in October 2003. The Conservation Measures and mapping direction in the Lynx Conservation Assessment and Strategy (LCAS), and the most recent changes to the Forestwide lynx habitat map (Forest GIS file: c:/fsfiles/gis/projects/lynx_habitat/lynx_habitat.mxd 20 April 2004), per direct review and adjustments by the National Lynx Biology Team – Oct., 2003, are used and applied in this analysis.

Mapping efforts indicate that, overall, lynx habitat is widely distributed across the Forest. Some landscapes have more potential habitat than others; this is both a reflection of the capability and current condition of the landscape.

Very little designated lynx habitat occurs within the American-Crooked project area. Currently, both LAUs have ample denning habitat (above the 10% LCAS guideline), and neither LAU has enough mapped “unsuitable” habitat to be of concern with respect to the LCAS 30% limit on conversion of suitable to unsuitable habitat.

CONCLUSION

Forest management activities within designated lynx habitats are partially governed and guided to be consistent with the Conservation Measures of the Lynx Conservation Assessment and Strategy. Based on sightings and ICDC database records, lynx possibly inhabit the Nez Perce National Forest. Based on the analysis of the project impacts on lynx, there is sufficient habitat to support lynx in the American and Crooked River drainages and Forest-wide.

NORTHERN GOSHAWK

INTRODUCTION

Forest management activities within designated lynx habitats are partially governed and guided to be consistent with the Conservation Measures of the Lynx Conservation Assessment and Strategy. Based on sightings and ICDC database records, lynx possibly inhabit the Nez Perce National Forest. Based on the analysis of the project impacts on lynx, there is sufficient habitat to support viable populations of lynx in the American and Crooked River drainages and Forest-wide.

The habitat information gathered and reviewed by the U.S. Fish and Wildlife Service indicates that changes have occurred in the distribution, amount, and structural characteristics of mature forests throughout much of the western United States. The primary change has been the reduction of mature forest cover by logging, although other factors such as fire suppression and catastrophic fire have also been implicated. While timber management has been demonstrated to affect goshawks at least at local levels (Crocker-Bedford 1990), forest management practices, such as the use of controlled fire selective thinning, also may make habitats more suitable to goshawks by opening up dense understory vegetation, creating snags, down logs, and woody debris, and creating other conditions conducive to goshawks and their prey (Reynolds et al. 1992). The U.S. Fish and Wildlife Service found “no evidence that goshawk habitat is limiting the population, or that a significant curtailment of the species habitat or range is occurring. Goshawks remain widely distributed throughout their historic range in the western United States” (U.S. Fish and Wildlife Service 1998).

STATE STATUS AND AVAILABLE TREND INFORMATION

The network of Natural Heritage Programs and Conservation Data Centers determine the conservation status of a species. The rank is primarily based the number of occurrences, habitat quality, estimated population size and trend, range of distribution, and threats to a species or their habitat. The goshawk has a global rank of G5 (widespread, abundant, secure) and an Idaho State ranking of S4 (not rare, apparently secure) (Engle and Harris 2001) (S3, Dixon 2005, pers. com.).

The National Breeding Bird Survey (BBS) is a national bird occurrence-monitoring program coordinated by the US Geological Survey. These routes are used to monitor long-term changes in populations as part of the national Breeding Survey effort (Sauer et al. 2004). Although single survey routes do not have an adequate number of data points to show population trend individually (by route), they do indicate if goshawk were detected or not, and when combined with the other routes, they provide a measure of relative statewide population trend. Nationally, this portion of the northwest shows a slight downward trend in the population of goshawks of 1.5% per year over a 37-year period

(1966-2003). For the state of Idaho, goshawk populations appear to be stable (Engle and Harris 2001).

In 1994, the Northern Region of the US Forest Service initiated a region-wide landbird-monitoring program to help biologists and managers better understand the habitat relationships of landbirds breeding in the region. Information from the permanent, long-term monitoring transects (1994-2003) on the Nez Perce National Forests shows that goshawks have been detected during 2 years on 4-point counts with an abundance of 4 individuals. This is probably due to the number of routes in potential habitat.

Goshawk have been recorded across the Nez Perce National Forest. This species may be more common than records suggest, as it is inconspicuous due to its behavior and preference for heavily forested areas.

HABITAT ANALYSIS

Habitat for the northern goshawk was modeled using R1VMP data as part of the American and Crooked River project. This analysis indicates that goshawk habitat represents 76% of the forested lands in the American River watershed and 68% in the Crooked River watershed.

The results of the Forest-wide Forest Inventory and Analysis indicate that, overall, goshawk habitat is widely distributed across the Forest (this includes nesting and foraging habitat). The total potential goshawk habitat represents approximately 38% of the forested lands forest-wide with a 90% confidence interval of 34% to 42%. Within the American River watershed, total goshawk habitat (represented by foraging habitat as nesting habitat is included in the calculations) amounts to 69% of the forested lands and 43% in the Crooked River watershed. The following table (Table A-3) displays the FIA data at three scales: 1) Forest, 2) Subbasin (4th HUC), and watershed (5th HUC). The amount and distribution of habitat is both a reflection of the capability and current condition of the landscape, as well as the number of plots across the landscape.

TABLE J-3: FOREST INVENTORY AND ANALYSIS DATA AT THREE SCALES FOR PERCENT GOSHAWK FORAGING AND NESTING HABITAT, INCLUDING 90% CONFIDENCE INTERVALS (CI LOW AND CI HIGH).

Species	Nez Perce Forest			South Fork Clearwater River			American River Watershed			Crooked River Watershed		
	CI Low	Mean	CI High	CI Low	Mean	CI High	CI Low	Mean	CI High	CI Low	Mean	CI High
Goshawk Nesting Habitat	16	19	22	22	28	35	18	38	58	0	4	13
Goshawk Foraging Habitat	34	38	42	45	52	60	50	69	88	13	43	75

Estimates of goshawk habitat based on R1VMP and the FIA data differ primarily due to the divisions for size class and canopy cover categories being slightly different between the two datasets. R1VMP also provides a spatial context not represented by the FIA data.

Both FIA and R1VMP have strengths and limitations relative to modeling and providing an estimate of goshawk habitat. FIA data should be interpreted in conjunction with the FIA old growth analysis to fill in habitat gaps created by small sample sizes and habitat model parameters in some of the landscapes.

CONCLUSION

Current (1997) amounts of goshawk habitat are more prevalent than historically. Goshawk habitat has increased over historic levels in both American and Crooked River drainages (SFLA, 1998, Wildlife Technical Report – Goshawk) due to fire suppression and forest succession. No existing old growth or replacement old growth stands would be harvested. A 10-15 acre buffer would protect nest trees.

Based on formal monitoring results, widely scattered incidental sightings, and inventoried habitat information, local goshawk population trends remain relatively stable on the Forest (USDA Forest Service FY 2002 monitoring report 2005). As field work continues for inventorying for goshawks, additional nests and sightings continue to be discovered. Based on the analysis of the project impacts on goshawk, there is sufficient habitat to support viable populations of goshawk in the American and Crooked River drainages and Forest-wide.

PINE MARTEN

INTRODUCTION

Martens use a variety of coniferous forest types and seral stages, but prefer high-elevation, mature or older, mesic forest. An important component of favored forest stands is complex physical structure near the ground (Mack and Gibilisco 1995, p. 18-19; Buskirk and Ruggiero 1994 p. 7). Modification of coniferous forests and the mosaic of the forest landscape may limit populations. Access to populations via roads and trails may increase the probability of trapping mortality (Idaho State Conservation Effort 1995 pg. 14-15, 18, 20).

STATE STATUS AND AVAILABLE TREND INFORMATION

The network of Natural Heritage Programs and Conservation Data Centers determine the conservation status of a species. The rank is primarily based the number of occurrences, habitat quality, estimated population size and trend, range of distribution, and threats to a species or their habitat. The marten has a global rank of G4 (not rare, apparently secure) and an Idaho State ranking of S4/S5 (not rare, apparently secure) (Dixon 2005, pers. com., Groves et al. 1997). Monitoring results have suggested that on the Nez Perce Forest, pine marten appear to be considerably more common than fishers. During the winter of 2003-2004, 28 snow track routes were run statewide. Approximately 153-158 marten were detected.

HABITAT ANALYSIS

The following table (Table A-4) shows the acres of habitat for the American and Crooked River watersheds (and % habitat within the two watersheds) based on R1-VMP. Approximately 66% of American River and 49% of Crooked River contains habitat for this species.

TABLE J-4. ESTIMATED ACRES OF PINE MARTEN HABITAT WITHIN THE AMERICAN AND CROOKED RIVER DRAINAGES

Watershed	Habitat Acres (% wtrsd)
American River	38,497 (66%)
Crooked River	22,147 (49%)

The results of the Forest-wide Forest Inventory and Analysis indicate that, overall, marten habitat is widely distributed across the Forest. The total potential marten habitat represents approximately 19% of the forested lands forest-wide with a 90% confidence interval of 17% to 22%. Within the American River watershed, total marten habitat amounts to 31% of the forested lands and 7% in the Crooked

River watershed. Table A-5 displays the FIA data at three scales: 1) Forest, 2) Subbasin (4th HUC), and watershed (5th HUC). The amount and distribution of habitat is both a reflection of the capability and current condition of the landscape, as well as the number of plots across the landscape.

TABLE J-5: FOREST INVENTORY AND ANALYSIS DATA AT THREE SCALES FOR PERCENT MARTEN HABITAT, INCLUDING 90% CONFIDENCE INTERVALS (CI LOW AND CI HIGH).

Species	Nez Perce Forest			South Fork Clearwater River			American River Watershed			Crooked River Watershed		
	CI Low	Mean	CI High	CI Low	Mean	CI High	CI Low	Mean	CI High	CI Low	Mean	CI High
Habitat	17	19	22	19	25	32	15	31	50	0	7	23

Estimates of marten habitat based on R1VMP and the FIA data differ primarily due to the divisions for size class and canopy cover categories being slightly different between the two datasets. R1VMP also provides a spatial context not represented by the FIA data.

Both FIA and R1VMP have strengths and limitations relative to modeling and providing an estimate of marten habitat. FIA data should be interpreted in conjunction with the FIA old growth analysis to fill in habitat gaps created by small sample sizes and habitat model parameters in some of the landscapes.

CONCLUSION

The current (1997) extent of available marten habitat in American and Crooked River drainages has increased over historic levels due to fire suppression and forest succession (SFLA, 1998, Wildlife Technical Report – Marten). No existing old growth or replacement old growth stands would be harvested. Based on the analysis of the project impacts on marten, there is sufficient habitat to support viable populations of marten in the American and Crooked River drainages and Forest-wide.

PILEATED WOODPECKER

INTRODUCTION

The pileated woodpecker is widely distributed in western North America, and is a common resident of northern Idaho's coniferous forests. The pileated woodpecker is used as an indicator of mature forests, primarily because of their preference for large diameter snags as nest trees that tend to occur more frequently in mature forests (Bull and Jackson 1995). Forests above 5,000' are generally avoided. Lodgepole pine and spruce-fir forests in particular receive little use, most likely due to the paucity of large diameter trees (Aney and McClelland 1990 p. 10).

Nesting habitat and food sources are considered key to maintaining viable populations of pileated woodpeckers. In particular, the amount of large trees and large snags affect available nesting habitat, and the amount of large logs on the forest floor affects the habitat for carpenter ants, a critical food source.

STATE STATUS AND AVAILABLE TREND INFORMATION

The network of Natural Heritage Programs and Conservation Data Centers determine the conservation status of a species. The rank is primarily based the number of occurrences, habitat quality, estimated population size and trend, range of distribution, and threats to a species or their habitat. The pileated woodpecker has a global rank of G5 (widespread, abundant and secure) and an Idaho State ranking of S4 (not rare, apparently secure) (Dixon 2005, pers. com., Groves et al. 1997, pg 155).

The National Breeding Bird Survey (BBS) is a national bird occurrence monitoring program coordinated by the US Geological Survey. These routes are used to monitor long-term changes in population as part of the national Breeding Survey effort (Sauer et al. 2004). Although single survey routes do not have an adequate number of data points to show population trend individually (by route), they do indicate if pileated woodpeckers were detected or not, and when combined with the other routes, they provide a measure of relative statewide population trend. Nationally, this portion of the northwest shows a long-term upward trend in the population of pileated woodpecker of greater than 1.5% per year over a 37-year period (1966-2003). For the state of Idaho, the BBS data shows a long-term upward trend in the population of 3.2% per year since 1966.

In 1994, the Northern Region of the US Forest Service initiated a region-wide landbird monitoring program to help biologists and managers better understand the habitat relationships of landbirds breeding in the region. Information from the permanent, long-term monitoring transects (1994-2003) on the Nez Perce National Forests shows that pileated woodpeckers have been detected on 188 point counts with an abundance of 217 individuals. The Regional landbird monitoring data for the Nez Perce National Forest indicate that the average number of pileated woodpeckers detected during surveys has increased since 1994.

Based on monitoring counts from five randomly placed survey transects established in 1988, as well as incidental pileated woodpecker sightings, show that pileated woodpeckers do occur on the Forest and are fairly common.

HABITAT ANALYSIS

Habitat for the pileated woodpecker was modeled using R1VMP data as part of the American and Crooked River project. This analysis indicates that pileated woodpecker habitat represents 47% of the forested lands in the American River watershed and 31% in the Crooked River watershed.

The results of the Forest-wide Forest Inventory and Analysis indicate that, overall, pileated woodpecker habitat is widely distributed across the Forest (this includes nesting and foraging habitat). The total potential pileated habitat represents approximately 41% of the forested lands forest-wide with a 90% confidence interval of 37% to 45%. Within the American River watershed, total pileated habitat (represented by foraging habitat as nesting habitat is included in the calculations) amounts to 47% of the forested lands and 21% in the Crooked River watershed. Table A-6 displays the FIA data at three scales: 1) Forest, 2) Subbasin (4th HUC), and watershed (5th HUC). The amount and distribution of habitat is both a reflection of the capability and current condition of the landscape, as well as the number of plots across the landscape.

TABLE J-6: FOREST INVENTORY AND ANALYSIS DATA AT THREE SCALES FOR PERCENT PILEATED WOODPECKER NESTING AND FORAGING HABITAT INCLUDING 90% CONFIDENCE INTERVALS (CI LOW AND CI HIGH).

Species	Nez Perce Forest			South Fork Clearwater River			American River Watershed			Crooked River Watershed		
	CI Low	Mean	CI High	CI Low	Mean	CI High	CI Low	Mean	CI High	CI Low	Mean	CI High
Pileated Nesting Habitat	8	10	12	7	11	16	0	3	11	0	0	0
Pileated Foraging Habitat	37	41	45	42	50	57	21	47	72	0	21	43

Estimates of pileated woodpecker habitat based on R1VMP and the FIA data differ primarily due to the differences in parameters used in defining habitat. The R1VMP model uses several parameters, including live tree size (dbh), live tree species, and canopy closure. The FIA habitat model used primarily a snag diameter component, which R1VMP does not have. R1VMP also provides a spatial context not represented by the FIA data.

Both FIA and R1VMP have strengths and limitations relative to modeling and providing an estimate of pileated habitat. FIA data should be interpreted in conjunction with the FIA old growth and snag analysis to fill in habitat gaps created by small sample sizes and habitat model parameters in some of the landscapes.

CONCLUSION

The current (1997) extent of available pileated woodpecker habitat has increased over historic levels in the American River and Crooked River drainages (SFLA, Wildlife Technical Report – pileated woodpecker). Harvest in mixed conifer stands (about 30-40 percent of total harvest) would amount to approximately 5 percent of pileated woodpecker nesting habitats on national forest lands in these drainages. No existing old growth or replacement old growth stands would be harvested.

Based on the available information for several indicator including both habitat data and population trend data, information does not suggest a downward trend in the Nez Perce pileated woodpecker population. Based on the analysis of the project impacts on pileated woodpeckers, there is sufficient habitat to support viable populations of pileateds in the American and Crooked River drainages and Forest-wide.

WOLVERINE

INTRODUCTION

In the Northwest, wolverine inhabit montane forests associated with subalpine rock/scree habitats in areas of low human occurrence (Copeland and Hudak 1995, pg. 104). Their presence is tied to late seral coniferous forest, but no specific vegetation association has been shown for wolverine (Copeland and Hudak 1995, p. 103). Use of various forest types is likely tied to food availability (Copeland and Hudak 1995, p. 106). Subalpine rock/scree habitats are used for foraging, security, and resting sites, and for natal denning (Idaho State Conservation Effort 1995, p. 119-120).

STATE STATUS AND AVAILABLE TREND INFORMATION

The network of Natural Heritage Programs and Conservation Data Centers determine the conservation status of a species. The rank is primarily based the number of occurrences, habitat quality, estimated population size and trend, range of distribution, and threats to a species or their habitat. The wolverine has a global rank of G4 (not rare, apparently secure) and an Idaho State ranking of S2 (imperiled because of rarity) (Engle and Harris 2001, Groves et al. 1997).

Based on sightings and ICDC database records, wolverine possibly inhabit the Nez Perce National Forest. During the winter of 2003-2004, 28 snow track routes were run statewide. Approximately 3 wolverine were detected.

HABITAT

Within the western U.S., wolverine occur principally in remote, high-elevation mountain basins and cirques, particularly during the breeding season (Rowland, et al. 2003). No high elevation cirque basins occur in the project area. However, wolverine may occasionally traverse the landscape in search of food. Wolverines are opportunistic scavengers and ungulate carrion is considered an important food source. Productivity of habitats and related ungulate carrion availability are important aspects of wolverine habitat management.

CONCLUSION

The project area lacks seclusion from human influence, has no high elevation cirque basins within the project area, but project activities improve potential elk (carrion) habitat suitability, as well as security by reducing motorized access. Based on sightings and ICDC database records, wolverine possibly inhabit the Nez Perce National Forest. Based on the analysis of the project impacts on wolverine, there is sufficient habitat to support viable populations of wolverine in the American and Crooked River drainages and Forest-wide.

BLACK-BACKED WOODPECKER

INTRODUCTION

Black-backed woodpeckers inhabit montane forests; primarily ponderosa and lodge-pole pine stands (Bull 1980:6-7, 26, 35, 41-42, 54, 59, 62-65). They are also frequently seen inhabiting burned areas, harvested areas, or beetle-killed forests.

STATE STATUS AND AVAILABLE TREND INFORMATION

The network of Natural Heritage Programs and Conservation Data Centers determine the conservation status of a species. The rank is primarily based the number of occurrences, habitat quality, estimated population size and trend, range of distribution, and threats to a species or their habitat. The black-backed woodpecker has a global rank of G5 (widespread, abundant and secure) and a Idaho State ranking of S3 (vulnerable) (Dixon 2005, pers. com., Engle and Harris 2001, Groves et al. 1997).

The National Breeding Bird Survey (BBS) is a national bird occurrence monitoring program coordinated by the US Geological Survey. These routes are used to monitor long-term changes in populations as part of the national Breeding Survey effort (Sauer et al. 2004). Although single survey routes do not have an adequate number of data points to show population trend individually (by route), they do indicate if black-backed woodpeckers were detected or not, and when combined with the other routes, they provide a measure of relative statewide population trend. Nationally, this portion of the northwest shows a long-term upward trend in the population of black-backed woodpecker of greater than 1.5% per year over a 37-year period (1966-2003). For the state of Idaho, the BBS data shows a long-term upward trend in the population of 19.2% per year since 1966.

In 1994, the Northern Region of the US Forest Service initiated a region-wide landbird monitoring program to help biologists and managers better understand the habitat relationships of landbirds breeding in the region. Information from the permanent, long-term monitoring transects (1994-2003) on the Nez Perce National Forest shows that black-backed woodpeckers have been detected during 2 years on 3 point counts with an abundance of 3 individuals. This is probably due to the number of routes in potential habitat.

The black-backed woodpecker is known to occur on all Districts on the Nez Perce National Forest, but in relatively low numbers.

HABITAT ANALYSIS

Habitat for the black-backed woodpecker was modeled using R1VMP data as part of the American and Crooked River project. This analysis indicates that black-backed woodpecker habitat represents 32% of the forested lands in the American River watershed and 41% in the Crooked River watershed. Forest-wide, by far the largest and most intense insect outbreak is in and around the American, Crooked, and Red River watersheds. However, other areas of the forest have insects and disease, and large insect outbreaks are possible in these areas. In addition, other areas of the Forest have and will burn, thus creating additional habitat for black-backed woodpeckers.

CONCLUSION

The current (1997) extent of suitable black-backed woodpecker habitat has likely declined over historic levels within the American and Crooked River drainages (SFLA, Wildlife Technical Report – Black-backed woodpecker) due to fire suppression. However, the very wide extent and magnitude of the mountain pine beetle epidemic in the Upper South Fork Clearwater River has substantially changed these circumstances. Harvest acres would amount to approximately 9 percent of the overall acres of potential black-backed woodpecker habitat in the project area. Given the current mountain pine beetle epidemic and risk of fires in the next decade, black-backed woodpecker habitat quality and abundance is rising across the landscape. Based on the analysis of the project impacts on black-backed woodpeckers, there is sufficient habitat to support viable populations of black-backed woodpeckers in the American and Crooked River drainages and Forest-wide.

BALD EAGLE

INTRODUCTION

On the Nez Perce National Forest, all bald eagle use occurs principally during the winter season.

The project area is high elevation habitat, well outside the lower elevation river corridors used by wintering bald eagles on the Forest.

STATE STATUS AND AVAILABLE TREND INFORMATION

The network of Natural Heritage Programs and Conservation Data Centers determine the conservation status of a species. The rank is primarily based the number of occurrences, habitat quality, estimated population size and trend, range of distribution, and threats to a species or their habitat. The bald eagle has a global rank of G4 (not rare, apparently secure) and a Idaho State ranking of S3/S4 (rare or uncommon, not rare, apparently secure) (Dixon 2005, pers. com., Engle and Harris 2001, Groves et al. 1997).

The National Breeding Bird Survey (BBS) is a national bird occurrence monitoring program coordinated by the US Geological Survey. These routes are used to monitor long-term changes in population as part of the national Breeding Survey effort (Sauer et al. 2004). Although single survey routes do not have an adequate number of data points to show population trend individually (by route), they do indicate if bald eagles were detected or not, and when combined with the other routes, they provide a measure of relative statewide population trend. Nationally, this portion of the northwest shows a long-term upward trend in the population of bald eagles of greater than 1.5% per year over a 37-year period (1966-2003). For the state of Idaho, the BBS data shows a long-term upward trend in the population of 3.6% per year since 1966.

Along the South Fork Clearwater River, annual winter counts, suggest that local bald eagle populations remain stable.

CONCLUSION

Bald eagle winter habitat is concentrated along the major river corridors on the Forest, Salmon River South Fork Clearwater, and Middle Fork Clearwater Rivers. The Forest participates in the annual bald eagle mid-winter census each year. Based on the monitoring data, local bald eagle population trends are considered stable or slightly increasing.

GRAY WOLF

INTRODUCTION

Gray wolves were once common in North America but with European settlement and conflicts with livestock grazing, persecution and near extermination have dramatically reduced wolf numbers. In 1995 and 1996, efforts to reintroduce this large predator into remote wildlands of Idaho were made.

STATE STATUS AND AVAILABLE TREND INFORMATION

The network of Natural Heritage Programs and Conservation Data Centers determine the conservation status of a species. The rank is primarily based the number of occurrences, habitat quality, estimated population size and trend, range of distribution, and threats to a species or their habitat. The wolf has a global rank of G4 (not rare, apparently secure, but with cause for long-term concern) and a Idaho State ranking of S1 (critically imperiled) (Dixon 2005, pers. com., Engle and Harris 2001, Nature Serve 2005). Wolves were reintroduced into north central Idaho beginning in 1995, hence local wolf populations have since multiplied dramatically on the Nez Perce National Forest and throughout the state. Based on most recent monitoring results, north Idaho wolf populations continue to increase to meet or exceed local recovery population goals.

There are currently at least 20 active packs in the Central Idaho Wolf Recovery Area. Based on most recent Forest Plan populations monitoring and statewide monitoring results, wolf populations are at or exceed recovery levels now. The Nez Perce National Forest is home to 7+ confirmed packs of wolves. In addition, new sightings of individuals wolves are continually being reported to the Forest and to the Nez Perce Tribe. Across the landscape of the Nez Perce National Forest, wolf packs are active and thriving (FY2002 Nez Perce National Forest Plan Monitoring & Evaluation Report - Wolf Populations).

CONCLUSION

Within Central Idaho, total confirmed wolf packs now easily exceed 15 (<http://mountain-prairie.fws.gov/wolf/annualreports.htm>). The Rocky Mountain Wolf Recovery 2003 Annual report stated that 345 wolves occupy the state of Idaho. Based on local sightings, sign and formal monitoring results, wolves are abundant, widely distributed on the Forest, and increasing numbers of reports suggest local populations of wolves continue growing.

ELK AND MOOSE

Elk – Elk are the product of habitat quality, as well as influenced by the effects of weather, hunting, and predation. Forest management practices tend to affect habitat quality and hunter access. In reviewing elk numbers along with recent elk-calf recruitment data, elk population trends on the Forest are considered stable of moderately down. In addition to habitat concerns, total predation population numbers and the cumulative effects on game herds have become a concern to local sportsmen and the Idaho Department of Fish and Game.

Moose – Moose continue to be seen commonly and widely distributed on the Forest. As evidenced by common incidental sightings and increasing hunter permit number, the local moose population trend remains relatively stable or slightly up.

CONCLUSIONS

The American and Crooked River project improves habitat for these species, specifically early-seral habitat and security. Based on the analysis of the project impacts on elk and moose, there is sufficient habitat to support viable populations of big game species in the American and Crooked River drainages and Forest-wide.

CONCLUSIONS

The Nez Perce National Forest provides management direction and standards to guide project planning. The action alternatives and analysis of the impacts on wildlife species addressed in the American and Crooked River EIS are consistent with Forest Plan standards and guides, the Endangered Species Act, National Forest Management Act, and Forest Service Manual 2670. Based on application of carefully-designed actions in the American and Crooked River Project and in consideration of the species population monitoring data collected to date across the Forest, the evidence fully supports the conclusion that all monitored terrestrial management indicator and federally listed species populations are maintaining or increasing locally and will continue to do so after implementation of this project. The desired condition for the American and Crooked River Project is to protect and enhance the habitat and local populations of wildlife species. All Alternatives would comply with NFMA direction that wildlife habitat be managed to maintain viable populations of existing native and desired non-native species well distributed across the “planning area” (Nez Perce Forest), of which the American and Crooked River Project area is a part. At the Forest level and across the range of the various wildlife species, past, present, and reasonably foreseeable future actions in and around the American and Crooked River watersheds will have a small or negligible effect on wildlife habitat or wildlife populations.

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